

Application No. 10/599,870
Amendment After Final Rejection dated November 30, 2011
Office Action of September 23, 2011

REMARKS

Claims 34-40 and 43-46 are pending in the application, with Claims 34 and 46 being the sole independent claims.

Applicants have amended Claims 34 and 46.

Upon entry of this paper, Claims 34-40 and 43-46 will remain presented for examination.

Applicants turn now to the substance of the Action.

Section 102 Rejection

Claims 34-38, 40 and 43-44 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by U.S. Patent No. 5,677,050 ("the '050 patent"), for the reasons set forth at pages 2-4 of the Action, and by U.S. Patent No. 6,265,061 ("the '061 patent"), for the reasons set forth at pages 6-8 of the Action.

Claim 46 stands rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by the '050 patent, for the reasons set forth at pages 4-6 of the Action, and by the '061 patent, for the reasons set forth at pages 8-9 of the Action.

Claim 39 stands rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by the '050 patent, as applied to Claim 34 above, when taken with U.S. Patent No. 5,391,210 ("the '210 patent"), for the reasons set forth at page 4 of the

Action, and the '061 patent, as applied to Claim 34 above, when taken with the '210 patent, for the reasons set forth at page 10 of the Action.*

Applicants traverse the Section 102(b) rejections, and in particular the Section 102(b) rejections of Claim 39, which on their face are improper.

As a review for the Examiner, Applicants present a summary of the substance of the invention, with reference to Claim 34. Claim 34, as amended, defines the present invention as a UV curable coating composition which when cured is abrasion resistant. Prior to being cured, the composition included:

- a) trimethylolpropane triacrylate in an amount between about 5% and about 85% by weight of the composition,
- b) N,N-dimethyl acrylamide in an amount between about 1 and about 30% by weight of the composition,
- c) an inorganic filler consisting of silica nanoparticles in an amount between about 30 and about 50% by weight of the composition and wherein at least about 50% of the silica nanoparticles are present as a premix with trimethylolpropane triacrylate, and

* While cast as a rejection under Section 102, a Section 102 rejection must be based on only one document or event. Here, the rejection of Claim 39 is based on at least two; thus, this rejection, if proper, seemingly should be under Section 103, not Section 102.

d) at least one photoinitiator which absorbs only in the UV range of the electromagnetic spectrum.

A cured coating of the UV curable coating composition maintains about 95% or higher of its post-cure gloss when subjected to about 100 cycles of grade 3 steel wool with a load of about 50 lbs applied per Federal Specification FF-W-1825.

Two documents are primarily cited in the Action as a basis for the rejections. They are each discussed in turn below.

The '050 patent is directed to and claims a coated retroreflective sheet comprising: (1) a retroreflective sheet having a thermoplastic surface; the coating being capable of transmitting light when cured and comprising: (a) about 20% to about 80% of ethylenically unsaturated monomer; (b) about 10% to about 50% of acrylate functionalized colloidal silica; and (c) about 5% to about 40% of an amide monomer selected from N,N-disubstituted acrylamide monomer, N-substituted-N-vinyl-amide monomer, and a combination thereof, where the amide monomer has a molecular weight between 99 and 500 atomic mass units; and where the percentages are weight percents of the total weight of the coating.

The '061 patent is directed to and claims an abrasion resistant retroreflective article, comprising a substrate and a coating provided on at least a portion of a surface of the substrate, the coated portion being retroreflective and the coating comprising a cured ceramer derived from ingredients comprising: (a) free-radically curable binder; (b) colloidal inorganic oxide; and (c) fluoro/silane that comprises a hydrolysable silane moiety and a fluorinated moiety.

The '061 patent refers to ceramers too. There, it is said:

Many ceramers are derived from aqueous sols of inorganic colloids according to a process in which a radiation curable binder matrix precursor (e.g., one or more different radiation curable monomers, oligomers, or polymers) and other optional ingredients (such as surface treatment agents that interact with the colloids of the sol, surfactants, antistatic agents, leveling agents, initiators, stabilizers, sensitizers, antioxidants, crosslinking agents, and crosslinking catalysts) are blended into the aqueous sol. The resultant composition is then dried to remove substantially all of the water. The drying step sometimes is referred to as "stripping". An organic solvent may then be added, if desired, in amounts effective to provide the composition with viscosity characteristics suitable for coating the composition onto the desired substrate. After coating, the composition can be dried to remove the solvent and then exposed to a suitable source of energy to cure the radiation curable binder matrix precursor.

(Col. 2, lines 12-29.)

At pages 3, 5, 7 and 9 of the Action, the Examiner admits "that all the claimed effects or physical properties are not positively stated" by the cited documents. The Examiner thus premises this Section 102 rejection on an inherency theory.

As the Examiner knows, inherency cannot be established by mere probabilities or possibilities. In re Robertson, 169 F.3d 743 (Fed. Cir. 1999).

The Examiner in sum and substance has asserted that the cited patent documents possess the same chemical compositions as Claim 34, and thus the properties that form part of the claim are necessarily present too.

Applicants disagree.

The '050 patent refers to a "ceramer". Col. 2, line 61 defines the term. And at Col. 5, line 27 refers to commercially available "silica gels" useful for preparing "ceramers". And at Col. 5, line 45, the '050 patent states that the silica particles must be acrylate functionalized.

The '061 patent criticizes known techniques for making ceramers, and points out the disadvantageous of using N,N-dimethyl(meth)acrylamide. The '061 patent indicates that its use leads to (1) colloidal instability during ceramer manufacture, (2) the resultant ceramer does not resist staining,

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and (3) the resultant ceramer fails to retains excellent hardness and abrasion resistance. The '061 patent adds a fluoro/silane component to overcome these disadvantages, and in so doing reports that it does not cause flocculation of the colloids.

Applicants' invention as presently claimed expressly requires N,N-dimethyl(meth)acrylamide, in an amount of about 1 to about 30 weight percent.

It is well settled that in order to be an effective anticipatory reference under Section 102, a single document must disclose each and every recitation of a claim under review. Failing such precise disclosure, rejections under Section 102 are improper.

The Court of Appeals for the Federal Circuit has discussed the requirements of Section 102 anticipation in Net Moneyin.

[u]nless a reference discloses within the four corners of the document not only all of the limitations claimed but also all of the limitations arranged or combined in the same way as recited in the claim, it cannot be said to prove prior invention of the thing claimed and, thus, cannot anticipate under 35 U.S.C. § 102.

Net Moneyin, Inc. v. Verisign, Inc., 545 F.3d 1359, 1371 (Fed. Cir. 2008).

Here, the '050 patent and the '061 patent do not possess such disclosure.

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For one, Applicants have amended the independent claims in two specific significant respects. First, Applicants have changed the transitional phrase "comprising" to "consisting of". Thus, at a minimum, Applicants have removed the '061 patent as a reference for citation because a fluoro/silane component -- required to make the compositions of the '061 patent operable -- is excluded from the claims.

And Applicants have changed the manner by which they refer to the silica nanoparticle in recitation (c). There, the claims have been amended to recite "an inorganic filler consisting of a silica nanoparticle ...". In so doing, Applicants have expressly distinguished the "acrylate-functionalized silica" required by the '050 patent.

Based on the above, reconsideration and withdrawal of the Section 102 rejections are requested.

Having addressed the Section 102 rejections set forth in the Action, Applicants respectfully submit that the application is in condition for allowance.

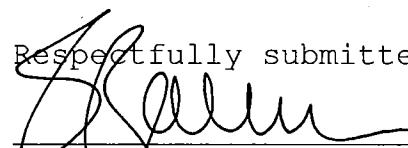
Accordingly, Applicants respectfully request that the next communication issued by the Patent and Trademark Office in this application be a Notice of Allowance.

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In any event, this paper represents an earnest attempt at advancing prosecution on the merits, and at the very least sharpening issues for appeal. Applicants thus respectfully submit that entry hereof is proper.

To the extent that the Examiner does not believe that the present paper places the application in condition for allowance, he is respectfully requested to contact Applicants' undersigned attorney may be reached by telephone at (860) 571-5001, by facsimile at (860) 571-5028 or by e-mail at steve.bauman@us.henkel.com. All correspondence should be directed to the address given below.

Respectfully submitted,



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